

DYNAMIC DELTA ENCODING FOR CABLE MODEM HEADER  
SUPPRESSION

ABSTRACT OF THE DISCLOSURE

A method and computer program product for recognizing and optimizing the transmission of TCP/IP style traffic across a DOCSIS network. According to the method of the present invention, a full TCP protocol packet is initially transmitted across a DOCSIS network to be learned by the CMTS. Redundant fields in the TCP protocol packet are entirely suppressed when subsequent TCP protocol packets are transmitted across the DOCSIS network. Non-redundant fields in the TCP protocol packet are delta-encoded using a delta-encoded value when subsequent TCP protocol packets are transmitted. The delta-encoded values represent the change in value of the current TCP packet from the previous TCP packet for a non-redundant field. This enables the CMTS to provide an exact reconstruction of all subsequently transmitted compressed TCP protocol packets.